

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

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Surface Water

(Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

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Ground Water

(Issued in accordance with the provisions of Chapter 280, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE May 10, 1993	APPLICATION NUMBER G2-28841	PERMIT NUMBER	CERTIFICATE NUMBER
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NAME

Town of Rainier

ADDRESS (STREET)

P.O. Box 258

(CITY)

Rainier

(STATE)

Washington

(ZIP CODE)

98576-0258

PUBLIC WATERS TO BE APPROPRIATED

SOURCE

Well #3

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND

MAXIMUM GALLONS PER MINUTE

200

MAXIMUM ACRE-FEET PER YEAR

160*

QUANTITY, TYPE OF USE, PERIOD OF USE

50 acre-feet per year (primary)

Multiple domestic supply

Year-round, as needed

110 acre-feet per year (supplemental)

* This quantity is issued partially supplemental

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

800 feet north and 1250 feet east of the west quarter corner of Section 9

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)

NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$

SECTION

9

TOWNSHIP N.

16

RANGE, (E. OR W.) W.M.

1E

W.R.I.A.

13

COUNTY

Thurston

RECORDED PLATTED PROPERTY

LOT

1 and 2

BLOCK

18

OF (GIVE NAME OF PLAT OR ADDITION)

Town of Rainier

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Area served by the Town of Rainier

282 af/py
total

DESCRIPTION OF PROPOSED WORKS

Well No. 3

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:

Started

COMPLETE PROJECT BY THIS DATE:

Completed

WATER PUT TO FULL USE BY THIS DATE:

November 1, 1996

REPORT

BACKGROUND:

On May 10, 1993, the Town of Rainier applied to the Department of Ecology for a permit under the provisions of Chapters 90.03 and 90.44 Revised Code of Washington (RCW), to appropriate additional water from Well #3 at a rate of 600 gallons per minute for municipal supply. The application number is G2-28841.

Legal notice of the proposed appropriation was duly published. No protests were received by this office.

During my review of the application, I discovered that a water right had not been issued for Well #3. The well, however, has been in continuous use since 1970. The intent of the pending application was modified to request the water right needed for the operation of Rainier's production Well #3. The Town of Rainier cannot meet existing supply demands without the continued use of Well #3.

Currently, the well is equipped to produce 200 gallons per minute. Historically, the pump capacity has not exceeded that rate. The Town may apply for additional rights in the future.

Current use of Well #3 is authorized by a temporary permit. Under the provisions of 90.03.250 and 90.44.020 Revised Code of Washington, the Department of Ecology may issue a temporary permit during the pendency of a water right application. The temporary permit was issued to authorize the Town's continued use of a source that is essential for supply to existing homes and for fire protection.

The Department of Health has approved the Rainier Water System for 540 connections, and the system is rapidly reaching capacity. Rainier has requested the allocation of water adequate to obtain DOH approval of 630 connections. The Department of Health has been working closely with Rainier to develop a public water system capable of supplying water to existing and new developments within the Town's service area. At this time, the Town of Rainier is unable to extend city water service to new homes that are being built within the service area.

INVESTIGATIONS:

In consideration of this application, I researched pertinent State records such as well drilling reports, recorded water rights, and flow regulations for the Deschutes River Basin (Chapter 173-513 Washington Administrative Code). Additional information was obtained from a review of the Well Yield Analyses for the Town of Rainier, prepared by Rongey/Associates. Steve Chamberlain, consultant for the Town of Rainier, was contacted to discuss the project.

EXISTING WATER RIGHTS:

Rainier's Water Facilities Inventory indicates that the Town utilizes four wells.

Wells #1 and #2 are operated under the authority of pre-1920, claimed vested rights (068891 and 068892). Each well is pumped at a rate of 50 gallons per minute. Well #4 is authorized by water right certificate G2-23349 for 50 gpm; 72 acre-feet per year. The extent of Rainier's water rights have been estimated to amount to 232 acre-feet per year. This is based on 72 acre-feet per year from Well #4, plus 50 gpm continuously from Wells #1 and #2, under claimed vested rights.

Water Requirements:

The service of 630 connections would require an allocation of at least 50 acre-feet per year, primary supply. This is based on an average anticipated consumption rate of approximately 252,000 gallons per day, amounting to a total annual requirement of 282.3 acre-feet per year (@ 400 gpd per connection).

Report Continued

Well #3 Construction:

Well #3 was drilled by Kincy Hardware & Well Drilling Co., in June 1970.

Well #3 was originally drilled to 427 feet, then plugged and completed at about 300 below ground surface. The casing is perforated in several gravel zones above the 273 foot level. The primary source of water into the casing is from perforations set between 107 and 121 feet. The well is completed in a least two distinct aquifer units.

WAC 173-160-075, the *Minimum Standards for Construction and Maintenance of Wells*, prohibits inter-aquifer mixing. Well #3 was completed in 1970, and pre-dates the 1972 Washington Water Well Construction Act RCW 18.104. However, since this well was never permitted, as a condition of this permit, the Town of Rainier shall undertake work to bring this well into compliance with today's standards. Prior to issuance of the final water right certificate, Well #3 must be repaired so that it is completed in only one aquifer or other wise altered in such a way that its construction meets currently accepted industry standards.

Protection of Deschutes River Flows:

The Deschutes River is the nearest surface water body. At its nearest point, it is situated over two miles southwest from Well #3. Under *Chapter 173-523 WAC, Water Resources Program in the Deschutes River Basin, WRIA 13*, base flows have been established for the Deschutes River, for "preservation of wildlife, fish, scenic aesthetic, and other environmental values" (WAC 173-500-020). The River is closed to all consumptive appropriations from April 15 to October 15. While this closure also includes ground water found to be direct continuity with the surface source, WAC 173-513-050 specifies that ground water withdrawals that do not clearly have an adverse impact on the surface water system may be allowed.

The land surface elevation at Well #3 is approximately 420 feet mean sea level. Southwest from the well, the elevation slopes downward to the river channel. Elevation at the Deschutes River is approximately 315 feet msl. The difference in elevations between the river and Well #3 is 105 feet.

Well #3 was ultimately completed 120 feet below ground surface. However, most water enters the casing through perforations situated between elevations of 313 feet and 300 feet. The water bearing material at this interval consists of sand and large gravel. The static water level in the well is approximately 106.5 feet below land surface, and the pumping water level is approximately 108 feet. These levels correspond with the elevation of the river channel.

From the information available on this well, it appears that Well #3 derives water from the same sand and gravel zone that underlies the Deschutes River. Staff hydrogeologist Igor Vern reviewed the information submitted with the applications and indicated that given the general permeability of the substrate and assuming an approximate transmissivity of 1000,000 gpd/ft, the drawdown profile from production well #3 could extend over four or five miles provided that there are no drastic discontinuities in area geology.

While it appears likely that the continued use of this well will have some impact on surface water flows, it is not possible to calculate whether the cumulative impact of well #3 can be quantified or clearly measured. WAC 173-513-050 indicates that ground water withdrawals should not be affected by the closure unless it is verified that such withdrawal would clearly have an adverse impact upon the surface water system, contrary to the intent and objections of this chapter.

Accordingly, I recommend approval of this permit to authorize the continued use of Well #3 for the municipal supply of the Town of Rainier.

Conservation program. Under RCW 90.03.005 and 90.54.020(6), the Department of Ecology must emphasize conservation and water use efficiency in management of the state's water resources and must reduce the waste of water as far as practicable. The development and implementation of a Conservation Plan that has been approved by the Department of Health will be a mandatory requirement of final water right issuance.

CONCLUSIONS:

In accordance with Chapters 90.03 and 90.44 RCW, I find that water is available from the source in question and that the appropriation, as recommended below, is for a beneficial use and should not impair senior rights or be detrimental to the public welfare.

RECOMMENDATIONS:

I recommend that this application be approved and a permit be issued to allow appropriation of 200 gpm from Well #3 for municipal supply. The quantity withdrawn shall not exceed 50 acre-feet per year primary allocation and 108 acre-feet per year supplemental to existing rights.

The permit shall be subject to all applicable State laws and regulations and shall carry the provisions shown below.

PROVISIONS:

"Prior to the issuance of the final water right certificate, the Town of Rainier shall undertake work to bring Well #3 into compliance with WAC 173-160-075, the Minimum Standards for Construction and Maintenance of Wells, and repair the well so as to prevent inter-aquifer mixing, resulting from completion in two aquifers."

The water appropriated under this application will be used for public water supply. The State Board of Health rules require public water supply owners to obtain written approval from the Office of Water Supply, Department of Health, Mail Stop 7822, Building 3, Olympia, Washington 98504-7822, prior to any new construction or alterations of a public water supply system.

This permit is subject to the implementation of the minimum requirements established in the Conservation Planning Requirements, Guideline and Requirements for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology, and Conservation Programs, July 1994, and as revised.

Under RCW 90.03.005 and 90.54.020(6), conservation and improved water use efficiency must be emphasized in the management of the states water resources, and must be considered as a potential new source of water. Accordingly, as part of the terms of this permit, the applicant shall prepare and implement a water conservation plan approved by Department of Health. The standards for such a plan may be obtained from either the Department of Health or the Department of Ecology.

"An approved metering devices shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through -040. Meter readings shall be recorded at least monthly".

"Nothing in this approval shall be construed as lessening or enlarging any water rights represented by Water Right Claim Nos. 068891 and 068892. The water use authorized under this filing (G2-28841) shall be considered supplemental to any water rights confirmed for said claim as a result of a general adjudication through Superior Court, should adjudication be undertaken."

REPORTED BY: Van Dulle Date: October 13, 1994

The statutory permit fee for this application is \$20.00.